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Before the
Federal Communications Commission
Washington, D.C. 20554

OCT 19 2004

Federal Communications Commission
Office of Secretary

In the Matter of)	
)	
Unbundled Access to Network Elements)	WC Docket No. 04-313
)	
Review of the Section 251 Unbundling)	
Obligations of Incumbent Local Exchange)	CC Docket No. 01-338
Carriers)	

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Attachment: Reply Declaration of Michael Starkey and Sidney Morrison Tab A

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MCI REPLY COMMENTS

MCI, Inc. ("MCI"), by its attorneys, respectfully submits the following reply comments in response to the Notice of Proposed Rulemaking ("*NPRM*")¹ issued by the Federal Communications Commission ("FCC" or "Commission") in the above-captioned proceeding.

I. INTRODUCTION AND OVERVIEW

The law of the land requires the Commission to undertake a granular, fact-intensive analysis of the barriers to entry in the absence of non-discriminatory access to unbundled network elements ("UNEs") provided by incumbent local exchange carriers ("ILECs" or "incumbent LECs"). The record evidence assembled with the opening comments establishes that the incumbent LECs continue to exercise near-total domination of the local access networks that competitive carriers must use in order to connect their own facilities with their end-user customers. This domination over local access facilities reflects the significant barriers to entry with respect to high capacity loop

¹ *Unbundled Access to Network Elements*, WC Docket No. 04-313, Order and Notice of Proposed Rulemaking, 19 FCC Rcd 16783 (2004) (FCC 04-179) ("*NPRM*" or "*Interim Order*").

and transport circuits. And it also results in what are today nearly insurmountable barriers to entry for carriers seeking to use their own switches in combination with incumbent LEC voice-grade loops to serve the mass market.

In their comments, the Bell Operating Companies ("BOCs") have deluged the Commission with data, presented in a manner that deliberately obscures these facts. Once the BOCs' data are properly analyzed, however, they reveal that there are no competitive alternatives for high capacity loops and transport below the Commission's capacity thresholds at the vast majority of locations, and on the vast majority of routes. Those data will also show that there are only a handful of wire centers in the country in which three or more independent competitors are using their own switches to serve residential customers in sufficient volumes and in a manner that demonstrates that barriers to entry have been overcome.

The BOCs also seek to muddy the waters further by discussing the potential use of services, such as Voice over Internet Protocol ("VoIP") and special access, which are not germane to the impairment analysis. Despite the BOCs' assertions, VoIP is not "intermodal" competition – it is a software application that rides as a service on a broadband facility provided by either the incumbent LEC itself or by the cable company. Consigning would-be competitors to the mercies of either a monopolist or a duopolist in control of the all-important broadband loop will not bring robust competition to the mass market. The BOCs' argument that the availability of special access is sufficient basis for a finding of non-impairment is equally flawed. Congress did not create an impairment standard that could be evaded in such a facile manner. The record demonstrates that the lack of high capacity UNEs forecloses competitive carriers from serving many customers

in many locations. Moreover, competitive carriers that have in the past been able to use special access facilities to serve some large enterprise customers will be severely limited in their ability to do so in the future because of the looming threat of a price squeeze.

In these reply comments, MCI responds to arguments made by other parties, principally the BOCs, and shows why MCI's proposals for analyzing impairment with respect to switching, high capacity loops, and transport, are superior to the alternatives proposed by other commenters.

Switching

- The development of VoIP is not a substitute for the availability of wireline plain old telephone service ("POTS"). VoIP is a software-based service, not facilities-based competition, and it is so new that only a few hundred thousand customers subscribe to VoIP today. Because subscribers to VoIP must also subscribe to broadband services, and because only 21% of the nation's households have broadband, VoIP is out of the reach of the vast majority of American consumers. The complete dependence of "edge" VoIP providers such as Vonage and AT&T on the incumbent LECs and cable companies on the "bring your own broadband" input also raises significant questions about the long-term viability of the business model. Moreover, VoIP does not compare in quality, ubiquity, or cost with traditional local exchange service.
- As explained in the attached declaration of Michael Starkey and Sidney Morrison, operational obstacles, principally relating to hot cuts, continue to bar the way to UNE-L-based mass market competition. The BOCs' comments tout Operation

and Support System (“OSS”) improvements, but none of these improvements addresses the manual nature of the hot cut provisioning process. Nor have incumbent LECs implemented the procedures necessary to unbundle Integrated Digital Loop Carrier (“IDLC”) loops, notwithstanding BellSouth’s misleading statements that it has multiple unbundling options. Indeed, BellSouth has neglected to inform the Commission that it has not actually ever used any of these options commercially, and that it declared one option a failure after trialing only two lines.

- Terry L. Murray, in her declaration, provides the Commission with the information necessary to evaluate the data provided by the BOCs that purport to show that the switching trigger test has been met in various geographic areas. As Murray explains, once the data have been analyzed properly, they demonstrate that there are very few wire centers in which there are three or more competitive providers offering service to residential customers in a manner that reflects that economic and operational barriers to entry have been overcome. Murray provides a detailed analysis for Illinois, Michigan, and Texas, showing that none of the wire centers in those states for which SBC sought a finding of non-impairment had three or more facilities-based carriers leasing loop plant from the incumbent to serve residential customers. Moreover, Murray shows that, even if the Commission were to use the MSA as the geographic market, the result in those states would be the same. Murray also explains why the BOC data on competitive local exchange carrier (“CLEC” or “competitive LEC”) switches, collocations, numbers ported, and NXX codes – if they are at all relevant to

impairment – are not presented in a way that would enable the Commission to determine whether the CLEC actually was using the resource in question to serve mass market customers.

- There are no geographic markets in which the Commission should find that there is no impairment with respect to unbundled switching. However, if the Commission should find no impairment in any particular markets, the incumbents will continue to have independent statutory obligations pursuant to section 271 to provide unbundled switching at just and reasonable rates, terms and conditions. In the event that the Commission finds no impairment for mass market switching in a market, the Commission has jurisdiction and the obligation under Section 271 to ensure that just and reasonable rates, terms and conditions for section 271 switching are in place before requiring competitive carriers to migrate customers off UNE-P. In addition, sections 201(b) and 202 of the Communications Act prohibit the BOCs from refusing to combine 271 elements or to commingle 271 elements with UNEs or incumbent LEC services.

High Capacity Loops and Transport

- The data submitted by the incumbent LECs significantly overstate the extent of deployment of transport by competitive carriers. Moreover, even taking those data at face value, they show only deployment of facilities for which the Commission has already eliminated unbundling – OCn level facilities, or other facilities above the capacity thresholds. There is no evidence that any competitive LEC is self-deploying DS-1 or DS-3 circuits, and the Commission should either

reaffirm the capacity thresholds or combine those thresholds with a wholesale trigger.

- The fiber-based collocation test proposed in MCI's initial comments is superior to incumbent LEC proposals for evaluating impairment with respect to transport.

The fiber-based collocation test: captures self-deployment of fiber; is a reasonable proxy for the wholesale trigger; and captures all potential deployment that can reasonably be expected. By contrast, incumbent LEC proposals are radically overbroad because they: fail to account for collocation pairs; wrongly presume that the presence of a single collocater is determinative of whether others can enter; and irrationally extrapolate to find non-impairment in situations where there is no competitive presence and no prospect of there ever being any competitive presence.

- The application of the *Triennial Review Order*'s triggers for high capacity loops is also superior to the incumbent LECs' proposals, for which there is a noticeable lack of evidentiary support.
- The incumbent LECs' assertion that the availability of special access moots the need for UNEs is incorrect for a variety of reasons, including the fact that in actuality, many competitive LECs rely heavily on UNEs. While some competitive LECs such as MCI have been able to use special access to serve some locations and some customers, there are many areas MCI has not been able to serve because special access rates are too high. Moreover, the grant of section 271 authority to the BOCs has created a situation in which competitive LECs both compete with the BOCs and are entirely dependent on them for a key input – loops and

transport – for which the BOCs can raise rates at will, under the Commission’s pricing flexibility rules. This creates the potential for a price squeeze of ominous proportions.

- For any routes and locations where the Commission has found impairment, competitive LECs must be able to convert special access circuits to UNEs, as well as to order new circuits as UNEs. In addition, there is no basis for distinguishing between “newly constructed” facilities and other facilities, because the incumbent LECs have both ubiquitous networks and extensive customer bases over which they can spread the cost of these facilities.

Preemption

- The Commission should reject BOC arguments that it adopt a different procedure for addressing claims that state commission rulings are preempted than the procedure established in the *Triennial Review Order*. The existing procedure was not affected by the court decision, and it is appropriate in light of the fact that: (1) preemption decisions revolve around specific factual issues; and (2) there will be many state unbundling decisions that are consistent with the federal statutory framework and so are not preempted.

Interconnection Agreements

- Incumbent LEC arguments that the Commission must abrogate change-of-law provisions in parties’ interconnection agreements are utterly without foundation in the case law, and are contrary to the framework established by sections 251 and 252 of the Act.

II. APPLICATION OF STANDARD TO INDIVIDUAL NETWORK ELEMENTS

A. Switching

In the *Triennial Review Order*, the Commission found that the economic and operational barriers associated with the hot cut processes of the incumbent LECs make it “uneconomic for competitive LECs to self-deploy switches specifically to serve the mass market,” and based its national finding of impairment for mass market switching primarily on the hot cut barriers.² The D.C. Circuit court vacated the national impairment finding for mass market switching principally because in its opinion this Commission did not conduct a sufficiently nuanced market-by-market impairment review³ and instead improperly delegated that granular review to the states.

In the time that has passed since the *Triennial Review Order* was issued, the incumbents have had every opportunity to address the economic and operational barriers to entry presented by their hot cut processes. Remarkably, not only have they failed to do so, the incumbents have taken affirmative steps to exacerbate those problems. In state hot cut proceedings, the incumbents have proposed *increases*, rather than decreases, in hot cut rates, and have succeeded in increasing competitors’ hot cut costs in New York,

² *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd 16978, as modified by Errata, 18 FCC Rcd 19020, ¶ 459 (2003) (“*Triennial Review Order*”).

³ *United States Telecom Ass’n v. FCC*, 359 F.3d 554, 569-70 (D.C. Cir. 2004) (“*USTA II*”).

which has more UNE-P customers than any other state.⁴ Further, the incumbents have proposed no process changes that would reduce the need for manual provisioning of hot cuts, have actively opposed every CLEC proposal to introduce automated or mechanized loop provisioning, and since the *USTA II* mandate issued have aggressively tried to halt ongoing state hot cut proceedings.⁵

The incumbents do not purport to have addressed the manual nature of the hot cut process. The facts are undisputed that they have not. Rather, the ILECs tout improved hot cut processes without ever conceding that their enhancements not only are largely untested and in some cases not even yet deployed, but also that they are limited exclusively to the pre-ordering and ordering aspects of the hot cut process, and do not change the way hot cuts are manually provisioned.

Rather than addressing the shortcomings of their processes, shortcomings that this Commission identified in the *Triennial Review Order* and that were thoroughly exposed in the state hot cut proceedings, the incumbents now claim incredibly that those shortcomings not only do not exist, but are irrelevant. The incumbents argue that the “debate over the hot-cut process is academic.”⁶ Verizon claims that all of the nation’s major UNE-P providers have abandoned UNE-P.⁷ SBC claims that CLECs actually

⁴ See *Proceeding on Motion of the Commission to Examine the Process and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basis*, Case 02-C-1425, Order Setting Permanent Hot Cut Rates at 1, 2, 6 (NY PSC, Aug. 25, 2004) (“NY PSC Hot Cut Order”).

⁵ MCI Comments, Attachment B, Declaration of Wayne Huyard, ¶ 18 (“Huyard Decl.”). (All comments cited herein were filed in WC Docket No. 04-313 on October 4, 2004, unless otherwise noted.)

⁶ Verizon Comments at 87, 110.

⁷ *Id.* at 111.

prefer UNE-L in its current form to UNE-P.⁸ These claims are patently false. And all of the incumbents argue that UNE-P CLECs will move to VoIP, and therefore, by implication, that the Commission need not worry about their hot cut processes.

This is preposterous. First and foremost, although MCI has been forced to downsize its consumer business efforts, MCI has not abandoned UNE-P. MCI currently provides local exchange service to more than 3.4 million mass market residential customers using UNE-P, and MCI continues to market those services today, despite the regulatory and market challenges we currently face. And, as demonstrated in its comments, MCI would welcome the means to serve its residential customer base via UNE-L where operationally and economically feasible. That opportunity does not present itself today, however, because the economic and operational barriers created by the hot cut process have not been addressed. The ILECs have no incentive to address them, and have made no serious effort to do so.

Second, it is true that virtually no one relies on UNE-L to serve the mass market today due to significant operational and economic barriers. As we show in more detail below, the state cases show that at most there are a few small CLECs relying on UNE-L to serve a small number of customers – generally small business customers – in a small number of wire centers. And, despite the ILECs' longstanding contention that CLECs would move to UNE-L if they could not rely on UNE-P, there has been no explosion of UNE-L use since the Commission made clear in the *Triennial Review Order* that states should eliminate UNE-P where ILECs could show non-impairment, nor has there been such a move since the D.C. Circuit's decision in *USTA II*. To the contrary, *none* of the

⁸ SBC Comments at 48.

major UNE-P providers has indicated an intention to move significantly to UNE-L, and MCI has had no choice but to put on indefinite hold its plans to invest \$180 million to supplement its UNE-P-based products with a UNE-L-based service, in light of the concern that UNE-P may disappear entirely and therefore there will be no UNE-P product to supplement.

This marketplace evidence strongly confirms that CLECs are impaired. It was just such evidence of the lack of UNE-L deployment that was a critical factor in the Commission's prior finding of national impairment. But the ILECs amazingly tout the CLECs' non-use of their uneconomic hot processes as a reason that hot cuts are not really a problem. This is not the first time that the BOCs have trotted out an unworkable process, watched as CLECs refuse to use the process, and then claimed that because CLECs aren't using the process, it must not be important. This negative bootstrapping is so transparent that it should be dismissed summarily.

The ILECs go on to argue that their hot cut processes are no longer important because UNE-P CLECs are moving to VoIP. In doing so, the ILECs, consciously or not, acknowledge the reality that CLECs cannot rely on UNE-L. Now, the ILECs tout VoIP as eliminating impairment with the same rhetorical assuredness with which they have long touted UNE-L. The first thing to note about this is that it is a fundamentally different story than the ILECs have been telling for years. Until now, the ILECs claimed that CLECs could readily serve the entire mass market using their own switches and would do so if only the Commission eliminated UNE-P. It is now clear that this is not true. And this should at least give the Commission pause in accepting the ILECs' new but fundamentally different story.

As we have discussed, VoIP is not a facility, but a software application that rides as a service over someone else's broadband facilities. Further, in order to take advantage of VoIP, one must already have a high-speed broadband connection. Most Americans do not have high-speed broadband today. The ILECs repeat throughout their comments the misleading assertion that 90 percent of households have access to broadband service. This statistic is entirely irrelevant. One hundred percent of Americans have access to Jaguar dealerships, but that does not mean that everyone can afford a Jaguar. The costs associated with high-speed broadband, which are in addition to the cost of obtaining VoIP service, coupled with the need for consumers to have a home computer and at least some technological savvy before even being willing to consider VoIP service, mean that VoIP is not a current substitute for POTS.

The fact is that while VoIP may serve as a replacement for some customers, it is nowhere close to ready to support service to the millions of customers for whom CLECs have been able to compete using UNE-P, as we show in more detail below. At present, *only about 200,000 customers use VoIP*, hardly a basis to claim VoIP is a mass market alternative. And many of these customers use VoIP over DSL. But in order to do so, they generally must also purchase a local line from the ILEC. For these customers, VoIP is not an alternative to ILEC voice service, but a supplement to it. As for VoIP provided over cable, it at best establishes a duopoly, since VoIP providers are fully dependent on the unregulated bottleneck input provided by the cable company, and cable companies can readily undermine competition from independent VoIP providers once they begin providing VoIP themselves, simply by setting the price of stand-alone broadband very close to the price of broadband plus VoIP. The qualitative deficiencies in VoIP,

including the absence of E911, uneven voice quality, and difficulties in use with multiple phones also render it an inadequate substitute at present. Most customers also are unwilling to move to VoIP today simply because of the novelty of the service. While VoIP may eventually provide real competition to the ILECs, it is in no position to do so today or the near future. Thus, the result of elimination of UNE-P will almost certainly be the elimination of competition for most of the mass market.

Finally, the fact that AT&T is no longer asking for unbundled switching should not influence the Commission. AT&T's public statements indicate that it made this decision because it anticipated an adverse decision from the Commission and had already decided to abandon the mass market. That does not mean that AT&T or any other carriers are not impaired. Rather, one can reasonably conclude that AT&T has made its decisions regarding the mass market *because* it is impaired, and therefore sees no other choice.

The Commission's task is to apply the law. And under the law, there can be no doubt that CLECs are impaired without unbundled switching. The ILECs generally ask the Commission to ignore this impairment, because the world is moving to VoIP. The Commission should not fall prey to this speculative, opportunistic line of attack on unbundled switching, and should take steps to require the elimination of the economic and operational barriers preventing UNE-L, rather than ignoring them, as the ILECs would have the Commission do. The empirical and economic evidence, coupled with evidence of operational barriers, establishes indisputably that CLECs would be impaired without unbundled switching and cannot now compete in the mass market using UNE-L.

1. The Development of VoIP Is Not a Substitute for the Availability of
UNE-P-Based Services

Throughout their comments, the BOCs describe VoIP as a “clear[] example of intermodal competition with circuit-switched local voice service.”⁹ But their arguments largely consist of unexamined assumptions, conclusory (and often erroneous) assertions, and speculation regarding the future development of VoIP – precisely the type of evidence the BOCs have decried as insufficient.¹⁰ The BOCs also decline to address facts and arguments that undermine their claims regarding VoIP, and in their place offer mantric repetitions of misleading statistics, such as their claim that ninety percent of American households have access to cable modem service. Even a cursory level of scrutiny reveals that the BOCs’ VoIP story is riddled with deficiencies, and that VoIP cannot currently be considered a substitute for traditional wireline service or evidence of actual deployment that would support a finding of lack of impairment.

*a. VoIP Is Not a Facility, But an Application that Can Ride
Over a Broadband Facility*

Foremost, the BOCs merely assume – without any discussion or attempted proof – that VoIP constitutes a type of intermodal competition that is relevant to the impairment analysis. The BOCs conveniently ignore the fact that under *USTA I* and *II*, it is only *facilities-based* intermodal competition that is relevant to whether a competitor is impaired under section 251(d)(2).¹¹ As MCI has explained, VoIP is not a facility but

⁹ *Id.* at 53; *see also* Qwest Comments at 34-39, 44-46; BellSouth Comments at 20-23; Verizon Comments at 91-99.

¹⁰ Verizon Comments at 8.

¹¹ *See United States Telecom Ass’n v. FCC*, 290 F.3d 415, 429 (D.C. Cir. 2002) (quoting with approval BOC argument that FCC should not mandate unbundling “in a

only a service that can ride over a broadband facility.¹² An “edge” provider of VoIP, such as Vonage, which relies on the “bring your own broadband” business model, should not be treated as an intermodal competitor, because it does not control the facility over which its service is provided.¹³

As the BOCs themselves concede, the vast majority of consumers today have a choice of at most two facilities-based broadband providers: the incumbent LEC or the incumbent cable company.¹⁴ The most recent FCC data shows that, as of December 2003, cable accounted for 84.5% of residential and small business advanced service lines, ADSL accounted for 13.5%, and “other wireline” (including “traditional telephone company high-speed services and symmetric DSL services that provide equivalent functionality”) accounted for a meager 1.6%.¹⁵ Although the BOCs claim that “additional competition in the provision of broadband services is rapidly being developed

market that ‘already has intense facilities-based competition’” and statement by Justice Breyer that FCC cannot “blind itself to the availability of *elements* outside the incumbent’s network”) (emphasis added) (“*USTA I*”); *USTA II*, 359 F.3d at 573.

¹² MCI Comments at 98-99.

¹³ See *id.* at 98 n.284. A true facilities-based competitor must own its own facilities or be able to obtain use of facilities at economic cost.

¹⁴ See Verizon Comments at 96 (“Approximately 90 percent of all U.S. homes now have access to broadband service from a provider *other than* the incumbent local telephone company, principally cable modem service.”) (citing BOC Report at II-2).

¹⁵ “High-Speed Services for Internet Access: Status as of December 31, 2003,” Industry Analysis and Technology Division, Wireline Competition Bureau, at Table 4 & n.2 (June 2004), available at: <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/hspd0604.pdf> (“*June 2004 High-Speed Report*”); see also *Availability of Advanced Telecommunications Capability in the United States*, Fourth Report to Congress, GN Docket No. 04-54, FCC 04-208, at 12 (Sept. 9, 2004) (“*Fourth Broadband Report*”) (stating that “broadband” is synonymous with “advanced services”); *id.* at 33, Chart 11 (showing that cable accounts for 84.5% of residential and small business advanced service lines, and ADSL for 13.5%, but erroneously listing “other wireline” as accounting for 6.4% instead of 1.6%).

and provided via alternate networks including wireless and powerline,”¹⁶ such alternative sources *today* account for less than 1% of mass market broadband lines.¹⁷ And in many markets, consumers are faced with an ILEC monopoly over broadband, or with no broadband at all. For example, 45% of Californians with access to broadband service can only get DSL – they cannot get cable modem service.¹⁸

b. VoIP Is Not Comparable to Traditional Voice Services with Respect to Ubiquity, Cost, Quality and Maturity

Furthermore, the BOCs fail to acknowledge adequately the multitude of limitations in ubiquity, quality, cost, and maturity that currently make VoIP services an inadequate substitute for incumbent LEC voice service in the mass market. When the BOCs speak to Wall Street, however, they do not make the same omission. In its 2003 Annual Report, SBC states, “Although a number of telecom companies have announced plans to deploy VoIP for consumers, for the near term, we believe our current wireline

¹⁶ Qwest Comments at 40.

¹⁷ *June 2004 High-Speed Report* at Table 4 & n.2; *see also* Letter from Donna Lampert and Mark O’Connor, EarthLink, to Marlene Dortch, FCC, CC Docket No. 01-338, at 2 (Oct. 12, 2004) (“EarthLink *ex parte*”) (citing FCC data that fixed wireless and satellite hold insufficient market share to be considered serious competition to the incumbent LEC or cable operator in any market, and stating that broadband over power lines “is not a significant entrant in either retail or wholesale markets”).

¹⁸ *See* EarthLink *ex parte* at 6 (citing findings by State of California and California PUC that: “[i]n California, SBC, and other incumbent LECs, continue to be the sole providers of broadband transmission service to nearly half of all residential customers in the state who have access to broadband service”; “[f]orty-five percent of California’s population with broadband access . . . can only get DSL service and cannot get cable modem service”; and “21% of Californians live in communities that have neither cable modem nor DSL service.”).

offerings still provide better call quality, features, and pricing.”¹⁹ But their comments in this proceeding make no such disclosures.

The BOCs fail to point out that VoIP is available only to those customers that first subscribe to broadband service, a luxury that many Americans cannot afford or choose not to purchase. The BOCs repeatedly claim that ninety percent of American homes have access to cable modem service, as if that claim were actually relevant. Americans have access to a lot of things, not all of which they can afford, and not all of which they desire. The high-speed broadband service that is required in order for VoIP to function may be cost-prohibitive for many, and may be unattractive to many others. A consumer should not be *required* to purchase broadband service in order to have competitive options for telephone service. Nor should those consumers who choose not to purchase broadband be deprived of the opportunity to choose competitive local telephone service.

Only about 21% of U.S. homes have broadband connections.²⁰ Further, the use of VoIP over DSL today is restricted to tech-savvy early adopters, since the most common grade of DSL offered to consumers, ADSL, cannot support VoIP service unless the consumer purchases a router with quality of service functionality capable of giving VoIP priority.²¹ Moreover, only a small fraction of those to whom VoIP is available have thus

¹⁹ SBC 2003 Annual Report at 3, *available at*: <http://www.sbc.com/investor_relations/company_reports_and_sec_filings/2003_AR.pdf>.

²⁰ Rather than draw attention to this figure, the BOCs claim that “90% of the population . . . has access to a broadband connection.” SBC Comments at 28; *see also* Qwest Comments at 45; Verizon Comments at 5. Such “access,” of course, is irrelevant if most consumers cannot afford or choose not to purchase broadband.

²¹ *See, e.g.*, Verizon VoiceWing Requirements, *available at*: <https://www22.verizon.com/ForYourHome/VOIP/LearnMore_rns.aspx> (VoiceWing service requires “Home Networking Router with available Ethernet port”); Verizon VoiceWing FAQs,

far chosen to subscribe to a VoIP service: In fact, VoIP's current subscribership is limited to a few hundred thousand of these early adopters.²²

The fact that VoIP requires a broadband connection, and the fact that approximately 79% of U.S. homes do not now have such a connection,²³ means that if the incumbent LECs are not required to sell broadband-capable UNEs to competitive LECs, almost four in five U.S. households will face a local telephone monopolist unconstrained by the competition contemplated by the 1996 Act. Even the 21% of the country that has broadband service at most has a choice of two broadband providers. As MCI and others have explained, actual deployment by just one competitor, particularly when that form of entry cannot be duplicated, cannot support a finding of lack of impairment.²⁴

With respect to the cost of VoIP, the BOCs claim that prices are "up to 30% lower than wireline service."²⁵ But the BOCs ignore the cost of the underlying broadband service. Although the cost of VoIP packages ranges from roughly \$20 to \$40 per month, the BOCs' own data shows that "[t]he average retail price of stand-alone broadband

available at: <<https://www22.verizon.com/ForYourHome/VOIP/FAQ.aspx#GPQ3>> (router required to use VoiceWing).

²² See MCI Comments at 99 & n.289.

²³ *Id.* at 99.

²⁴ See *id.* at 95-98 (explaining that economic theory and empirical evidence from the telecommunications industry indicate that a duopoly is not sufficient to ensure competition for local telephone services, and describing relevant FCC precedents); EarthLink *ex parte* at 3 n.4 (citing precedents recognizing dangers of duopoly); Justin Hyde, "Broadband Duopoly Calms Cable, Telecom Battles," Reuters (Oct. 16, 2004) (ILECs and cable companies "appear reluctant to cut prices on Internet service – which each considers key to its future – to chase market share at the expense of profits").

²⁵ SBC Comments at 28; see also *id.* at 50; Verizon Comments at 97.

service . . . is approximately \$46 per month.”²⁶ When the latter cost is factored in, VoIP service is more expensive than most local and long distance packages for traditional calling.²⁷ Even the BOCs’ own price comparison shows that the total cost of BOC circuit-switched service (including the cost of voice, dial-up internet access, and taxes/fees/ surcharges) ranges from \$65 - \$95, whereas the comparable cost for cable VoIP ranges from \$77 - \$87, and for Vonage from \$69 - \$79.²⁸ Thus, VoIP is typically comparable in price to, or even more expensive than, a combination of traditional circuit-switched voice and dial-up Internet access.²⁹

²⁶ BellSouth, SBC, Qwest, and Verizon, “UNE Fact Report 2004” at II-18 (“BOC Report”).

²⁷ See MCI Comments at 100-101 and sources cited.

²⁸ BOC Report at II-19, Table 5. This comparison does not include the initial activation fee and shipping costs that many VoIP providers charge. See MCI Comments at 100 n.292.

²⁹ Nor are the costs of VoIP at this point predictable or stable. Given the BOCs’ penchant for speculation elsewhere in their comments, it is striking that they have not cited the widespread belief that VoIP will eventually be subject to an array of state and federal charges and taxes (including access charges to originate and terminate domestic toll calls) that apply to landline service. See “How Quickly Will VoIP Grow?”, AP (July 11, 2004), *available at*: <<http://www.idahostatesman.com/apps/pbcs.dll/article?AID=/20040711/NEWS02/40710003/1029>> (“half the states in the country are looking at regulating and taxing VoIP,” according to Gregory Rosston, deputy director of the Stanford Institute for Economic Policy Research); Scott Moritz, “Net Phone Threat May Ring Hollow for Bells,” TheStreet.com (June 25, 2004), *available at*: <http://www.thestreet.com/_tscs/tech/techspecial/10166766.html> (“The cost advantage [of VoIP] could be fleeting as cash-strapped states consider new tax measures.”); see also BOC Report at II-19 n.89 (citing UBS Vonage Story at 3 for fact that VoIP providers benefit from having “much lower taxes,” whereas “regulatory fees and other taxes [] typically increase the price for the Bells by \$10 to \$15”). If VoIP gains a substantial customer base, the pressure to tax it will almost certainly rise. The price of VoIP will also rise if the FCC and/or the states require VoIP providers to comply with 911, backup power, CALEA, and other regulations. See, e.g., Ken Belson, “The Call Is Cheap. The Wiretap Is Extra,” New York Times at 1 (Aug. 23, 2004). Indeed, one analyst suggests that the BOCs themselves will seek to have regulators impose certain obligations on VoIP providers so as to increase their overall costs and limit the competitive threat to the

Nevertheless, the incumbent LECs claim that the existence and predicted growth of VoIP obviate the need for UNEs, since VoIP will provide competitive LECs with the ability to serve their customers independent of the incumbent LECs' local facilities.³⁰ VoIP does not provide an independent competitor for local telephony. To the contrary, the fact that VoIP rides over a broadband facility means that VoIP providers are dependent on the broadband platform provider, even though they do not pay the platform provider directly. In the long run, this dependence likely will nullify any potential pro-consumer gains that that may appear to accompany the success of VoIP in the short term. Specifically, as VoIP becomes more successful, consumers will place a higher value on the broadband connection that enables VoIP. This higher valuation, in turn, will induce the broadband provider to raise its price. In the absence of any competitive constraints on the broadband providers' ability to raise prices for the broadband facility that is required for VoIP, consumers will not get lower telephone rates due to VoIP; instead, the potential consumer gains will be captured by broadband providers in the form of higher prices for the broadband "pipe."

Furthermore, to the extent that VoIP is provided over incumbent LEC DSL, the end-user customer generally must also subscribe to local exchange service, which, as currently configured by the incumbent LECs, is inherently capable of being used for voice service. In this situation, VoIP is a complement to, not a substitute for, traditional voice service.

BOCs. Legg Mason, "After the Bell Trifecta: Telcos Stay on Offense, Eye New Policy Moves," at 3-4 (Sept. 15, 2004).

³⁰ See, e.g., Qwest Comments at 38, 40, 44-46.

The BOCs' cursory treatment of the quality of VoIP service also cannot withstand scrutiny. SBC, BellSouth, and Verizon each devote only a single sentence to the quality issue, asserting that the "quality and functionality" of VoIP is "comparable" or "superior" to conventional circuit-switched service.³¹ Qwest makes a similar one-sentence claim, except that Qwest frivolously compares the quality of VoIP not to wireline service, which is the subject of this proceeding, but to "typical *wireless* service."³²

In fact, VoIP for consumers remains subject to a number of quality concerns that make it inferior to wireline service. In addition to problems such as latency and uneven sound, many consumer VoIP services are subject to limitations arising from their inability to provide traditional E911 service and their inability to function during a power outage. Such limitations have been widely acknowledged,³³ including on Verizon's own website and SBC's most recent annual report, in which SBC states "we're working to solve the shortcomings inherent with consumer VoIP services available today, such as 9-1-1 responders' inability to locate the caller and service interruptions due to power failure."³⁴ Even the BOC Report grudgingly concedes that "not all VoIP providers have

³¹ SBC Comments at 53; BellSouth Comments at 21; Verizon Comments at 2.

³² Qwest Comments at 45-46 (emphasis added).

³³ In addition to the various sources cited in MCI Comments at 101-103, a number of recent articles have continued to call attention to the quality limitations of VoIP. See, e.g., "911 Calls Made over Internet often Get Lower Priority," AP (Oct. 12, 2004), available at: <http://www.usatoday.com/tech/news/2004-10-12-voip-trouble_x.htm>; Ben Smith, "This Is an Emergency: 911 Is a Joke for VoIP Customers," Slate Magazine (Sept. 8, 2004), available at: <<http://slate.msn.com/id/2106424/>> (discussing 911 problems of VoIP); Ian Katz, "Talk Is Cheap Using Internet Long-Distance," AP (Sept. 14, 2004) available at: <http://biz.yahoo.com/ap/040914/internet_calls_2.html> ("Talk is Cheap") (describing 911 and backup power problems, as well as the fact that "the quality is not as reliable as with traditional copper phone lines").

³⁴ SBC 2003 Annual Report at 3.

implemented . . . Enhanced 911 capability.”³⁵ Although the BOC Report claims that carriers like Vonage have “adopted alternative 911 capabilities,”³⁶ these alternatives clearly are not comparable to traditional 911 service. Vonage’s website, for instance, contains a lengthy disclaimer that, *inter alia*, provides the following warnings:

- “You Must Tell Us the Physical Location of Your Vonage Line for 911 Dialing to Function.”
- “911 Dialing Is Not Automatically Set Up for Use. You Must Pre-Activate 911 Dialing. You May Decline 911 Dialing.”
- “Your Call Will Go To A General Access Line at the Public Safety Answering Point (PSAP). This is different from the 911 Emergency Response Center where traditional 911 calls go.”
- “Service Outages Can Prevent 911 Dialing.”³⁷

Similar disclaimers regarding 911 service and backup power availability also appear on websites of other VoIP providers touted in Verizon’s comments, including Net2Phone, Skype, and 8x8.³⁸

³⁵ BOC Report at II-24.

³⁶ *Id.*

³⁷ “Vonage Lets You Dial 911,” *available at*: <<http://www.vonage.com/features.php?feature=911>>.

³⁸ Verizon Comments at 96. See Net2Phone “VoiceLine Terms of Service,” §§ 2-3, *available at*: <<http://web.net2phone.com/site/vlterms.asp>> (describing “non-availability of emergency (911) services or directory assistance services” and the fact that “the Service will not function in the event of power failure”); Skype, “Terms of Service of Skype,” § 3.1, *available at*: <http://www.skype.com/company/legal/terms/tos_voip.html> (“the VoIP service provided by Skype does not and is not intended to support or carry . . . any type of emergency services of any kind”); 8x8, “Packet8, Terms and Conditions of Service,” § 3.1-3.2, *available at*: <http://www.packet8.net/about/service_terms.asp> (“8X8’s EQUIPMENT AND SERVICES DO NOT SUPPORT 911 EMERGENCY DIALING OR OTHER EMERGENCY FUNCTIONS”; “THE SERVICES WILL NOT FUNCTION IN THE ABSENCE OF ELECTRICAL POWER”) (capitalization in original).

Finally, the BOCs do not even attempt to argue that VoIP – which clearly is still in its infancy – is a mature alternative to traditional circuit-switched voice service. The BOCs fail to point out, for instance, that: “VoIP services currently are particularly susceptible to bugs, viruses, worms, and hackers”;³⁹ many VoIP providers “are small companies with limited track records in telecommunications,” possessing only an “uncertain stability”;⁴⁰ and “the open nature of a VoIP phone call makes it easy for spammers to send audio-commercials to people’s VoIP voice-mail inboxes in much the same way they carpet bomb e-mail inboxes today.”⁴¹ Such problems may, of course, be corrected as VoIP matures in future years. However, in light of the fact that such limitations clearly exist, VoIP service is today subject to a number of unpredictable disruptions that do not affect the more mature landline voice service that the BOCs have been providing for decades.

c. Incumbent LEC Statements Regarding the Future Availability and Consumer Acceptance of VoIP Are Purely Speculative

Rather than acknowledge these limitations in ubiquity, quality, cost, and maturity, the BOCs merely speculate regarding the future availability or subscribership of VoIP. Verizon, for instance, discusses at length the future availability of VoIP in particular markets or regions, often citing the “plans” or projections of VoIP providers.⁴² Likewise,

³⁹ CTIA Daily News (Aug. 2, 2004).

⁴⁰ *Talk Is Cheap*.

⁴¹ Eric Hellweg, “Kill Voice Spam Before It Grows,” Technology Review (Oct. 11, 2004), available at: <http://www.technologyreview.com/articles/04/10/wo_hellweg_101104.asp>.

⁴² Verizon Comments at 91-96.

according to BellSouth and SBC, “[a]nalysts predict that within the next two years 80% or more of U.S. households will be able to obtain IP telephony services from their cable operators.”⁴³ Qwest similarly states that “[a]nalysts project that cable operators will capture 10 percent of current residential lines by 2007 and 15 percent by 2008.”⁴⁴ The Commission should not rely on such speculation as part of its impairment analysis.

Even if the BOC projections are assumed to be accurate, they are not relevant to the impairment analysis for mass market circuit switching. Specifically, none of these projections suggests that the last mile broadband duopoly enjoyed by the incumbent cable and telephony companies will erode in the foreseeable future. For instance, BellSouth states that “[b]oth AT&T and MCI are aggressively focusing on VoIP initiatives; AT&T projects one million VoIP customers by the end of 2005, while MCI claims that VoIP ‘has come into its own’ and that ‘IP is the world’s dominant protocol.’”⁴⁵ As an initial matter, while MCI today offers an IP-based suite of products to enterprise customers, MCI does not currently offer a VoIP product to consumers, and its public statements about the future of VoIP are not evidence that MCI is “aggressively” rolling out facilities-based VoIP service to the mass market. Moreover, BellSouth’s statement ignores the continuing reliance of AT&T, MCI, and other competitive LECs on cable and incumbent

⁴³ BellSouth Comments at 21; SBC Comments at 52 (“By 2006, at least 80% of U.S. households are expected to have access to IP telephony from their cable provider.”).

⁴⁴ Qwest Comments at 37 (citing BOC Report at II-8). These projections appear to apply to any type of cable telephony, and not just cable VoIP.

⁴⁵ BellSouth Comments at 21 (citing BOC Report at II-1 and http://global.mci.com/us/info/email/digital_view/articles/voip.xml); *see also* SBC Comments at 50-51; Verizon Comments at 95-96.

LEC broadband facilities to reach consumers. AT&T's CallVantage service works only if the consumer has already purchased DSL or cable modem service.⁴⁶

2. Operational Barriers to UNE-L Deployment Continue to Create Impairment

As MCI demonstrated in its comments, the lack of UNE-L-based entry to serve the mass market can be traced in part to operational barriers that today exist in every wire center in the country and independently support a finding of nationwide impairment for unbundled switching. As discussed below, the comments submitted in this proceeding confirm the presence of such barriers.

a. *The Incumbents Have Refused to Consider Mechanization of Hot Cut Provisioning*

In the state hot cut proceedings that followed the *Triennial Review Order*, not one incumbent LEC proposed introducing any mechanized enhancements or automation to address the most critical bottleneck in the loop provisioning process – namely, the manual work involved in provisioning the loop, known as the “lift and lay” aspect of the hot cut process.⁴⁷ This is undisputed in the record.⁴⁸ In their comments, the BOCs tout system enhancements that they claim will increase the efficiency of their hot cut processes. The BOCs fail to point out, however, that these improvements are limited exclusively to OSS improvements affecting the pre-order and order aspects of the hot cut

⁴⁶ See “AT&T CallVantage: How it Works,” available at: <<http://www.usa.att.com/callvantage/how/index.jsp>>.

⁴⁷ Reply Declaration of Michael Starkey and Sidney Morrison, appended as Attachment A, ¶¶ 3, 6 (“Starkey/Morrison Reply Decl.”).

⁴⁸ As we will discuss in detail, BellSouth's claim that it provides eight different methods of unbundling IDLC loops is entirely misleading, and its own admissions prove the fallacy of that claim.